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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/851,514
Filing Date: May 08, 2001
Appellant(s): SANTOS ET AL.

Philip Lyren
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/26/2005 appealing from the Office action mailed 7/25/2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,406,477	Harhen	4-1995
5,687,322	Deaton	11-1997

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim 1, 2, 4-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerace (5,848,396) in view of Harhen (5,406,477) in view of Deaton (5,687,322).

Claim 1, 11, 17, 19, 20: Gerace discloses a computerized method of determining differential promotion allocation among prospective customers comprising the steps of:

entering management information that is specific to business management objectives and constraints, including entering budget information (col 12, lines 5-42; col 13, lines 10-20); and

defining a campaign plan for allocating presentations of a plurality of said promotions among said customers, including using automated processing to form said campaign plan on the basis of customer segments (col 13, lines 1-33; col 12, lines 25-30; col 33, line 63-col 34, line 20)

and said management information, said customer segments being based upon customer commonalities with respect to at least one customer attribute, said campaign plan being defined to include at least one restricted promotion for each customer segment (col 34, lines 7-15; col 20, lines 9-19; col 18, lines 20-25; col 13, lines 9-20; col 12, lines 39-42).

Also, note that an advertisement is a type of promotion.

The Merriam-Webster online dictionary at www.m-w.com defines advertise and promote as:

"**advertise:**

1 : to make something known to **:** **NOTIFY**

2 a : to make publicly and generally known <*advertising* their readiness to make concessions> **b** **:** to announce publicly especially by a printed notice or a broadcast

c : to call public attention to especially by emphasizing desirable qualities so as to arouse a desire to buy or patronize **:** **PROMOTE**

promote:

1 . . .

2 a : to contribute to the growth or prosperity of **:** **FURTHER** <*promote* international understanding> **b :** to help bring (as an enterprise) into being **:** **LAUNCH**

c : to present (merchandise) for buyer acceptance through advertising, publicity, or discounting"

Therefore, Gerace's advertisements are a form of promotion.

Also, Gerace discloses product specials and discounts presented to targeted users (col 9, lines 10-14; col 32, lines 9-15).

In regards to claim 11, Gerace discloses a system for forming a promotion campaign plan comprising:

stored customer segment information indicative of mapping a plurality of customers to a smaller number of customer segments, said mapping being based on attributes that are perceived as being relevant to customer activity when presented with promotions (col 20, lines 9-20);

stored promotion information regarding a plurality of promotions; stored market information regarding marketing considerations relevant to said promotions;

stored management information regarding business objectives and business constraints relevant to said promotions; and

an optimization engine configured to design a promotion campaign as an algorithmic response to each of said stored customer segment information, said stored promotion information, said stored market information and said stored management information, wherein said promotion campaign indicates promotion strategies on a promotion-by-promotion and segment-by-segment basis, said optimization engine being enabled to detect and automatically optimize the achieving of said business objectives considering said business constraints (col 12, lines 5-42; col 13, lines 10-20; col 13, lines 1-33; col 12, lines 25-30; col 33, line 63-col 34, line 20; col 34, lines 7-15; col 20, lines 9-19; col 18, lines 20-25; col 13, lines 9-20; col 12, lines 39-42).

In regards to claim 17, Gerace discloses a method of determining differential promotion allocation among website visitors comprising the automated programming steps of:

entering market data that includes visitor conversion information and null promotion information, said conversion information being specific to visitor groups that are based on common attributes among said visitors, said conversion information identifying group-by-group characteristics relating to desired website visitor activities (col 12, lines 6-42; col 33, lines 35-col 34, line 28), said null promotion information identifying factors specific to said groups and said desired website visitor activities when there is an absence of promotions that are designed to promote said website visitor activities (col 18, lines 20-25);

entering management data that includes business objectives and business constraints, said business objectives including information regarding target numbers of conversions and target

purchases, said business constraints including group-by-group budget constraints; and computing a campaign plan that is specific to each said group and each said promotion, said campaign plan being based upon said market and management data (col 12, lines 6-42; col 33, lines 35-col 34, line 28).

Gerace further discloses tracking company profit levels or revenue levels (col 11, lines 6-14).

Gerace does not explicitly disclose target profit levels or target revenue levels.

However, Deaton discloses target profit levels or target revenue levels (col 34, lines 35-40; col 63, lines 37-43; col 63, lines 55-65; col 74, lines 55-62; col 75, lines 3-10; col 124, lines 43-55).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add Deaton's tracking of profit or revenue to Gerace's optimal targeted promotions. One would have been motivated to do this in order to provide promotions that best optimize a sponsor's revenue or profit from purchases.

Deaton also discloses that restricted promotions to a customer segment generates excitement among purchasers (col 109, line 5-7).

Additionally, in regards to all the independent claims, Gerace disclose automatically optimizing the achieving of said business objectives considering said business constraints (col 19, lines 15-32; col 15, lines 10-15; col 15, lines 29-35; and other citations above).

Gerace further discloses targeted marketing (col 2, lines 32-35; col 18, line 65-col 19, line 3).

Gerace does not explicitly disclose automatically detecting contradictions between said constraints and other aspects of said entered management information;

automatically identifying resolutions to said contradictions; and implementing said resolutions in said campaign plan.

However, Harhen discloses marketing and business objectives (col 1, line 60; col 2, line 14-18; col 2, line 27-32) including targeted marketing (col 10, lines 1-40) and demographics analysis (col 2, lines 57-61).

Harhen further discloses automatically detecting inconsistencies and contradictions between said constraints and other aspects of said entered management information;

automatically identifying resolutions to said inconsistencies and contradictions; and implementing said resolutions in said campaign plan (Abstract; col 6, lines 45-67; col 6, lines 52-55).

Harhen further discloses identifying contradictions and conflicts (col 14, lines 52-58; col 41, line 11-20).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add Harhen's further analysis and optimization of business and marketing objectives with inconsistency resolution to Gerace's optimization of marketing objectives . One would have been motivated to do this in order to provide more advanced modeling and, therefore, better optimization to Gerace's optimization.

Addtionally, the online Merriam-Webster dictionary at www.m-w.com defines

inconsistent as, "**:** lacking consistency: as **a :** not compatible with another fact or claim <*inconsistent* statements> **b :** containing incompatible elements <an *inconsistent* argument> **c :**

incoherent or illogical in thought or actions : **CHANGEABLE** **d** : not satisfiable by the same set of values for the unknowns <*inconsistent* equations> <*inconsistent* inequalities," and,

contradiction as, "...**2 a** : a proposition, statement, or phrase that asserts or implies both the truth and falsity of something **b** : a statement or phrase whose parts contradict each other <a round square is a *contradiction* in terms> **3 a** : logical incongruity **b** : a situation in which inherent factors, actions, or propositions are inconsistent or contrary to one another," and,

mutually exclusive as, ": being related such that each excludes or precludes the other <*mutually exclusive* events>; *also* : **INCOMPATIBLE** <their outlooks were not *mutually exclusive*>".

Therefore, it is obvious that the inconsistencies and contradictions of Harhen can be mutually exclusive.

Claim 2: Gerace and Harhen and Deaton disclose the method of claim 1, 18, and Gerace further discloses that said step of defining said campaign plan includes:

automatically identifying an inconsistency in achieving two of said business management objectives;

automatically determining a guideline for resolving a trade-off between said two business management objectives; and

utilizing said guideline in configuring said campaign plan (col 15, lines 10-15; col 15, lines 29-35).

Claim 4: Gerace and Harhen and Deaton disclose the method of claim 3, and Gerace further discloses that said step of automatically detecting said contradictions includes generating

a report which identifies said contradictions and said resolutions (col 33, lines 35-col 34, lines 27).

Claim 5: Gerace and Harhen and Deaton disclose the method of claim 1, and Gerace further discloses that said step of entering said management information includes entering data indicative of budget constraints (1) for individual said customer segments (col 19, lines 24-26; col 19, lines 19-21) and (2) for said overall campaign plan (col 19, lines 35-40; col 19, lines 24-26; col 12, lines 8-20). Furthermore, because the sponsor can indicate how many hits a sponsor wants to purchase (col 19, lines 24-26) and because a charge can be assigned per hit (col 12, lines 8-20), the sponsor is able to enter the amount of money he wishes to spend per package.

Claim 6: Gerace and Harhen and Deaton disclose he method of claim 1, and Gerace further discloses that said campaign plan is specific to application via the global communications network referred to as the Internet (col 3, lines 50-54).

Claim 7: Gerace and Harhen and Deaton disclose he method of claim 1, and Gerace further discloses that said campaign plan is specific to application via a telecommunications network (col 3, lines 44-46; col 3, lines 39-46).

Claim 8: Gerace and Harhen and Deaton disclose the method of claim 1, and Gerace further dislcoses a step of entering market data on which said campaign plan is further based, including entering conversion data that is indicative of the responsiveness of each said customer segment to said promotions (col 33, line 43-col 34, line 27).

Claim 9: Gerace and Harhen and Deaton disclose the method of claim 8, and Gerace further discloses that said step of entering said market data includes providing null promotion data for individual said customer segments, said null promotion data being indicative of

probabilities of achieving said business management objectives during an absence of said promotions (col 19, lines 19-25).

Claim 10, 14, 15, 18: Gerace and Harhen and Deaton disclose he method of claim 1, 11, 17.

Gerace does not explicitly disclose that supply chain data or availability of goods or services can be a consideration in regards to promotions.

However, Deaton discloses that supply chain data or availability of goods or services can be a consideration in regards to promotions (col 17, lines 17-38; col 94, lines 43-48; col 103, lines 5-25).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add Deaton's promotions that consider the supply of the item to be purchased to Gerace's targeted promotions to a user. One would have been motivated to do this in order to provide promotions of products that are of more timely benefit to the sponosor.

Deaton further discloses tracking on-hand inventory (col 103, lines 5-10).

Deaton does not explicitly disclose that the data indicates currently ordered inventory.

However, Deaton discloses that when an inventory is short of a product can be monitored (col 103, lines 7-10) and that promotions can be geared to a product group, specific product, or department (col 103, lines 20-25) and that incentives can be related to product inventory situations (col 103, lines 7-10).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to that Deaton's gearing incentives towards product inventory situations can include the product situations of ordering products when the products are low on inventory.

One would have been motivated to do this in order to provide a more comprehensive product inventory situation to relate to product promotions.

Claim 12: Gerace and Harhen and Deaton disclose the system of claim 11. Gerace further discloses that said stored management information includes budget constraints for each said customer segment, said optimization engine being configured to be responsive to said budget constraints such that said promotion campaign includes designations of portions of specific said customer segments that are to be presented with particular said promotions (col 15, lines 10-17; col 19, lines 35-40; col 19, lines 24-26; col 12, lines 8-20; col 19, lines 19-21).

Claim 13: Gerace and Harhen and Deaton disclose the system of claim 11. Gerace further discloses that said optimization engine is cooperative with a feasibility engine that is configured to recognize and address said contradictions in said stored management information, said feasibility engine being enabled to determine resolutions to said contradictions that involve said business constraints (col 19, lines 20-32).

Claim 16: Gerace and Harhen and Deaton disclose the system of claim 11. Gerace further discloses that said optimization engine is cooperative with an efficiency frontier engine that is configured to recognize said inconsistencies and to determine trade-offs among said business objectives, said efficiency frontier engine being responsive to a hierarchy of said business objectives (col 12, lines 27-35).

(10) Response to Argument

In regards to Appellant's arguments concerning the claims, Examiner notes that it is the Applicant's claims as stated in the Applicant's claims that are being rejected with the prior art.

Also, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). And, Examiner notes that claims are given their broadest reasonable construction. See *In re Hyatt*, 211 F.3d 1367, 54 USPQ2d 1664 (Fed. Cir. 2000).

For example, Appellant's independent claim 1 minimally states features concerning how or in what way or considering what parameters or utilizing what steps or information, etc the method is to 'automatically detecting contradictions. . .automatically identifying resolutions. . .implementing said resolutions'. Hence, these features are open to a broad as reasonable construction. Also, the broadest reasonable construction was also applied to Appellant's other claims.

I. Claims 1, 5-8, 10-15, 17-18, And 20

Beginning on page 8 of the Appellant's Appeal Brief dated 12/26/2005, Appellant states that "Elements of Independent Claims Not Taught or Shown. . .Nowhere do Gerace, Harhen, and/or Deaton teach or suggest the noted recitations."

However, Harhen teaches or suggests automatically detecting contradictions of management information, automatically identifying resolutions to the contradictions, and implementing the resolutions in the campaign plan.

Harhen discloses identifying contradictions and conflicts:

"(180) More than one statement, such as an opinion, may be attached to a variable. Each statement results in a separate intermediate hypothesis and all are evaluated in the reconciliation process. Thus, the system supports contradictory opinions in making a variable

projection. As all statements are considered to be axiomatic equally, the reconciliation process looks to other factors beyond the proof values such as the date of the opinion (with the latest being most valuable), to solve conflicts" (col 41, lines 11-20).

Note in the citation above that Hahren discloses that the identifying of contradictions is automatic. Also, note that Hahren's system automatically identifies a resolution to the conflicting or contradictory opinions. Hahren's reconciliations process allows contradictory opinions, then, after contradictory opinions are identified, Hahren resolves the situation by 'looking to other factors. . .such as the date of the opinion. . .to solve conflicts".

Harhen also discloses automatically ("self sufficient") identifying conflicting hypotheses and automatically resolving the conflicting hypotheses, and that a solution can automatically be arrived at:

"Using the model, the present invention is self sufficient in determining which areas of the multiple reasoning methods to apply to the variable projection problem. Applying reasoning methods to a single projection problem generates a set of conflicting intermediate hypotheses that the present invention can resolve to form a single final hypothesis through a reconciliation process that evaluates quality factors associated with the intermediate hypotheses. A problem solution tree tracks the solution process to provide to the user a full explanation of the methods chosen or discarded and data relied upon or disregarded" (Abstract).

Also, notice that Harhen is utilizing management information in the analysis, identifying inconsistencies, and utilizing automatic analysis ("self-structuring") and that Harhen's strategic planning is analogous to a campaign plan:

"(35) Through the construction of this problem tree and the application and selective pruning of reasoning methods, the system decides in what manner to use the information available in the knowledge base. This architecture enables the system to be self-structuring, and enables the system to deal either with partial models of incomplete information or with situations when conflicting information appears in the knowledge base. In this manner, diverse and inconsistent knowledge such as budgets, plans, expectations, causal models and historical knowledge, can be integrated and interpreted within a single architecture. The ability to reason in either direction over declarative relations in the knowledge base is also important in achieving consistency between the various levels of plans produced in the hierarchies of organizations. Thus, the present invention represents a substantial improvement over the strategic planning tools that are currently available. Moreover, the method and apparatus of the present invention has a wide range of uses outside the domain of strategic planning. Wherever multiple analytical methods can be applied to a system to evaluate a component of the system, the present invention can be used (col 6, lines 45-67);

(480) Additionally, each reconciliation rule object contains an EVIDENCE-REQUIRED slot which determines the set of conditions for applicability. As the set of unpruned intermediate hypotheses make up a conflict set, a conflict exists when multiple unproved intermediate hypothesis remain. The EVIDENCE-REQUIRED slot is an attached procedural test to check that there is conflict in the conflict set" (col 65, lines 53-63).

On page 10, Appellant states that Harhen teaches away from an automatic process: "This section of Harhen teaches that the user interacts with the system for understanding the contradictions. Applicants respectfully submits that this section of Harhen teaches away from

the recitations in the claims. Nowhere does this section of Harhen teach or suggest automatically detecting. . .".

However, as noted in the citations above in this Response to Arguments section and the citations below, Harhen discloses an automatic, computer driven process.

Harhen further discloses that it is a computer driven and automatic process that balances objectives and recommendations or provides solutions and courses of action:

"For many years, planners have sought the aid of computer-based tools in strategic planning. The problem has been to create a computer system to generate plausible recommendations concerning the nature and the amount of the various resources that are required to supply the enterprise, and identify the actions appropriate to acquire and develop these resources, given that there are a large number of factors to consider in planning and many different ways to consider them. The computer system must be able to analyze data from many different perspectives and form a single projection based on the results from the application of the different reasoning methods (col 3, lines 55-68).

The control strategy of the present invention is model-based, and it is the structure of the model that guides the system on its path towards a solution. The process starts when the user asks the system to solve a problem. The typical question is to determine the behavior of a variable in the future. Various reasoning methods and reconciliation rules are used to generate solutions to the problems posed to the system. Sometimes in applying reasoning methods, the system attempts to reason in two directions over relationships in the enterprise model. (col 5, lines 50-60)

Also, notice that Harhen implements or executes strategies or reasoning methods:

"(33) The system maintains a dependency list among hypotheses (both intermediate and final) and the premises which generated them. This is done by creating relationships from the new hypothesis created after the successful execution of a reasoning method" (col 6, lines 13-19);

(480) Associated with each reconciliation method rule object is a reconciliation module (see FIG. 3, 154) to execute the method" (col 65, lines 53-63).

Also, Harhen discloses implementing said resolutions in said campaign plan in the citations above and also below:

"(142) Each reasoning method acts upon a variable to form a projection. Some reasoning methods in their application require a value for other variables. For example in FIG. 2, to project a value for the resource-employees variable 52, using a productivity reasoning method, the values of the productivity variable 122, and the product built variable 54 must be determined. Sub-problems for these variables would be generated in the present invention to obtain values for other related variables. The applicability of a reasoning method to a sub-problem, if it succeeds in solving a problem, will generate an intermediate hypothesis. These intermediate hypotheses are reconciled to form a final hypotheses for the projection problem. Each intermediate hypothesis contains characteristic data that serve as the basis for pruning or selecting hypotheses in reconciliation. The characteristics include the reasoning methods that generated the intermediate hypotheses, the premises or argument value to which the reasoning method was applied and other characteristics that permit the reconciliation procedure described below to prune intermediate hypotheses to determine a single projection from many competing intermediate projections. Reconciliation is needed each time a sub-problem is solved. In

dealing with large interrelated knowledge bases, many thousands of reconciliations will take place in solving a scenario. The strategy for dealing with reconciliation is to view the decision as a multi-criteria decision, based on dimensions of intermediate hypothesis quality (col 36, lines 2-30);

(223) The problem solution tree created during this process contains the entire solution path from initial problem to final solutions. The tree can also be viewed by the user to provide an explanation of reasoning methods selected, projection values created, reasoning methods and solutions discarded" (col 46, lines 50-56).

Also, Gerace discloses a campaign plan (see citations in the rejection above and also the below citations), implementing a campaign plan, and optimizing a campaign plan:

"52) Specific to desired ads, each sponsor has one or more Ad Series Objects 33c (FIG. 5c). An Ad Series Object 33c (FIG. 5c) provides an indication of whether a given advertisement is singly or serially displayed, the category of the information, and the demographic group pre-requested by the sponsor to be shown that advertisement. In a preferred embodiment, the sponsor specifies in Ad Series Object 33c the required and/or preferred psychographic and/or demographic criteria and relative importance (e.g., weight) with respect to each criterion. Further, the sponsor specifies in Ad Series Object 33c a minimum total weight of criteria to be met by a user to qualify the user to view the ad series. Also Ad Series Object 33c includes a reference to an Ad Package Object 33b (via an ad package identification), the hour of the day in which the ad/ad series is to start and end, the days of the week on which the ad/ad series is to be displayed, and the beginning and ending dates and times of the ad/ad

series. Also for serially displayed advertisements, Ad Series Object 33c indicates the maximum number of views in a series to be displayed per user and per user per day (col 12, lines 21-41);

(53) Each ad forms a corresponding Ad Object 33d as illustrated in FIG. 5d. For a given advertisement, Ad Object 33d indicates to which series the advertisement belongs. To effectuate this, the Ad Object 33d indicates a series ID which references an Ad Series Object 33c, and indicates a series sequence (i.e., the ordering of the ads in a series). Ad Object 33d also includes the starting and ending time for display of the ad each day. Ad Object 33d also provides references to graphic, sound, and multimedia portions of an advertisement. A text-only format of an advertisement is used for users receiving messages on their own E-mail service or on a text-only browser (e.g., Links systems for VAX/VMS operating systems) rather than through the messaging feature of program 31 (col 12, lines 41-46);

(16) In addition, a subroutine coupled to the module performs a regression analysis on the recorded history of users viewing the ads. The subroutine refines profiles of target users based on the regression analysis. Preferably, the regression analysis weights the relative importance of psychographic and/or demographic characteristics of users. As such, over time, the advertisements become better targeted to users having an interest in said information (content and presentation/format of ad), and hence the invention method and apparatus provides automatic targeting of audiences (target users) and self-tailoring of target profiles (col 2, lines 42-56);

(91) When the sponsor-user of the example decides to create a second package, the sponsor-user clicks on a "request an ad package" option and completes a form detailing the package (number of hits/click throughs requested, profiling, etc.). This time however the

sponsor-user decides not to identify a target market for this ad. Impressed by the system's regression information, the sponsor-user decides instead to choose "auto target" and allow program 31 to make the most efficient use of the new ad (col 19, lines 20-30).

(87) To ensure that sponsors achieve the optimal result from the ads they place, program 31 combines regression analysis with the above weighting technique to achieve real-time, automatic optimization as discussed previously. Under this auto-targeting system, an ad package is shown to general users. After a large number (e.g., 10,000) hits, program 31 runs a regression on a subject Ad Package Object 33b to see what characteristics are important, and who (type of user profile) the ad appeals to most. Program 31 then automatically enters weighting information based on that regression to create a targeted system and runs the advertisement (Ad Package Object 33b) again in front of this new targeted group. Program 31 then runs a regression every 10,000 hits, for example, including a group of 500 general people as a control, and adjusts the weighting. This continues until the Ad Package is exhausted (i.e., the number of hits and click throughs are achieved)" (col 18, lines 10-15).

On page 11, Appellant states that Hahren does not teach or suggest a campaign plan. However, as noted in the rejection dated 2/28/05, Gerace was cited for disclosing the features of the campaign plan. Also, Harhen does disclose a campaign as shown in the citations above and further below.

Also, Examiner notes that while specific references were made to the prior art, it is actually also the prior art in its entirety and the combination of the prior art in its entirety that is being referred to. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based

on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Hence, the combination of the prior art of Gerace, Hahren, and Deaton renders obvious the Applicant's claimed features of automatically detecting contradictions of management information, automatically identifying resolutions to the contradictions, and implementing the resolutions in the campaign plan.

Beginning on page 12, Appellant states that there is 'No Suggestion or Motivation to Combine or Modify Gerace and Haren. . .Thus, Gerace and Haren are directed to solving completely different problems. . ."

In response to Appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Also, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

In this case, Gerace discloses marketing, demographic analysis, targeting, and inciting a user to make a purchase (Summary of the Invention, col 2, lines 1-55).

And, Harhen discloses marketing and business objectives (col 1, line 60; col 2, line 14-18; col 2, line 27-32) including targeted marketing (col 10, lines 1-40) and demographics analysis (col 2, lines 57-61; col 12, line 60-col 13, line 2):

"Managers typically consider the forces that affect the making and marketing of a product, such as changes in the cost of raw materials to produce the product, the particular needs of large customers (col 1, line 60);

(11) Projections pertaining to factors of the general economy that would affect the marketing or making of the goods or services such as Gross National Product (GNP), cost of living, inflation, or unemployment rates (col 2, line 14-18);

(15) Projections pertaining to political or governmental influences on the making or marketing of the product, such as imposition of regulatory restrictions or taxes, or the political stability of a nation (col 2, line 27-32);

(17) In addition, there is also raw numerical information concerning the market for the product and the economy as a whole. Statistics such as market indicators, total market sales, demographic figures, as well as general economic factors such as GNP, inflation and unemployment rates are also readily available (col 2, lines 57-61);

(19) A PROPORTIONALITY relationship marks an association where one variable may bear some proportionality to another, without any implication of a causal relationship. For example, revenue earned has a PROPORTIONALITY relationship to its target market. In FIG. 2, the revenue variable 40 is associated with a target market variable 50, using a set of relationships to model this relationship. First, a two-way PROPORTIONALITY relationship (indicated by the arched line) exists between the revenue variable 40 and the target market

variable 50 (i.e. revenue is proportional to target market and target market is proportional to revenue). To provide a way to capture the nature of the proportionality relationships, which is expressed as a ratio, the present invention provides a ratio variable 41 that is linked to the revenue variable 40 and the target market variable 50 by two relationships: an IS A NUMERATOR OF relationship and an IS A DENOMINATOR OF relationship. Those relationships are both two-way relationships. The target market variable 50 is a numerator of the ratio variable 41 and the ratio variable 41 has a numerator (i.e. the target market variable 50). Also, the ratio variable 41 has a denominator, the revenue variable 40, and that revenue variable 40 is a denominator for the ratio variable 41 (col 10, lines 1-25);

(20) The target market variable 50 is related to other market indicators, and each is connected in the model by PROPORTIONALITY relationships. For example, the target market, as modeled, is linked to the general population in the market areas, the gross national product (GNP) of the region and the total market size. These factors are represented in the enterprise model by a collection of related variables--a population variable 44 is proportionally related to a GNP variable 46, which, in turn, is proportionally related to a total market variable 48. The total market variable 48 is proportionally related to the target market variable 50. Those variables reflect a chain of related variables that describe the target market variable 50 and its relationship to the revenue variable 40 (col 10, lines 25-40);

(32) In FIG. 2, a retirement incentive program object 94 and a retirement incentive effect object 96 contain information on the effects that the program has on the attrition ratio 57. Also, a pricing discount program object 98 and a pricing discount effect object 100 contain data

on the effects that a pricing scheme has on the proportionality between revenue and the target market, represented by a two-way EFFECT relationship between the pricing discount effect object 100 and the proportionality variable 41" (col 12, line 60-col 13, line 2).

Hence, both Gerace and Harhen disclose similar aims and objectives of marketing, targeting a user, trend analysis, demographics analysis, inciting a user to make a purchase, and campaign planning and optimizing. As noted above it is the combination of Gerace and Harhen and Deaton that renders the features of the Applicant's claims obvious.

Therefore, as noted in the prior and also above rejection, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add Harhen's further analysis and optimization of business and marketing objectives with inconsistency resolution to Gerace's optimization of marketing objectives . One would have been motivated to do this in order to provide more advanced modeling and, therefore, better optimization to Gerace's optimization.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

On page 14, Appellant states that there is 'No Expectation of Success'.

Examiner notes that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Additionally, in the MPEP section 716.01(c) under the title "Attorney Arguments Cannot Take the Place of Evidence", note that objective evidence must be presented to prove inoperability.

Also, please see the motivation to combine explanations above.

In conclusion, the combination of Gerace, Harhen, and Deaton renders the features of the Applicant's claimed invention obvious and there is motivation to combine Gerace and Harhen as demonstrated above.

II. Claim 2

In regards to Appellant's arguments concerning dependent claim 2, Examiner notes that the rejection of claim 2 includes the rejection and arguments for the claim upon which claim 2 is dependent.

Also, Examiner further notes that Harhen discloses recognizing inconsistencies, balancing business goals and objectives, and utilizing hierarchies concerning business goals and objectives, utilizing guidelines and making recommendations:

"For many years, planners have sought the aid of computer-based tools in strategic planning. The problem has been to create a computer system to generate plausible

recommendations concerning the nature and the amount of the various resources that are required to supply the enterprise, and identify the actions appropriate to acquire and develop these resources, given that there are a large number of factors to consider in planning and many different ways to consider them. The computer system must be able to analyze data from many different perspectives and form a single projection based on the results from the application of the different reasoning methods (col 3, lines 55-68).

The control strategy of the present invention is model-based, and it is the structure of the model that guides the system on its path towards a solution. The process starts when the user asks the system to solve a problem. The typical question is to determine the behavior of a variable in the future. Various reasoning methods and reconciliation rules are used to generate solutions to the problems posed to the system. Sometimes in applying reasoning methods, the system attempts to reason in two directions over relationships in the enterprise model (col 5, lines 50-60).

The present invention provides a computer-based method and apparatus to generate projection values for defined variables by applying, in parallel, multiple reasoning methods. The present invention provides a method and apparatus for creating a realistic model of an enterprise, including its production processes and market environment. That representation of the enterprise is contained in a frame-based enterprise model, which is stored in a knowledge base. The enterprise model represents various facts about the structure of the firm, such as flow relationships, causal relationships, compositional relationships, productivity relationships, proportionality relationships as well as opinions, goals and plans. Through the model building method of the present invention, a user can declare and instantiate new objects

representing such entities in a knowledge base, assign attributes and values to those objects, and connect those objects to other objects through the set of available relationships. Other model building activities relate to the decomposition of an object by a decomposition rule. . . In the specification of objects for the enterprise model, the present invention provides for a categorization hierarchy of objects. Objects are classified by data type, such as historical data, variables, program data or plans, opinions or goals (col 4, line 50-col 5, line 7).

In the specification of objects for the enterprise model, the present invention provides for a categorization hierarchy of objects. Objects are classified by data type, such as historical data, variables, program data or plans, opinions or goals. The categorization hierarchy facilitates the use of feature inheritance in declaring objects, whereby attributes can be declared about general classes of objects and these attributes can be inherited to the specific members of the class. The inheritance mechanism of the underlying representational medium, as well as the power of decomposition, allow for very efficient model building (col 5, lines 3-15).

Through the construction of this problem tree and the application and selective pruning of reasoning methods, the system decides in what manner to use the information available in the knowledge base. This architecture enables the system to be self-structuring, and enables the system to deal either with partial models of incomplete information or with situations when conflicting information appears in the knowledge base. In this manner, diverse and inconsistent knowledge such as budgets, plans, expectations, causal models and historical knowledge, can be integrated and interpreted within a single architecture. The ability to reason in either direction over declarative relations in the knowledge base is also important in achieving consistency

between the various levels of plans produced in the hierarchies of organizations. Thus, the present invention represents a substantial improvement over the strategic planning tools that are currently available. Moreover, the method and apparatus of the present invention has a wide range of uses outside the domain of strategic planning. Wherever multiple analytical methods can be applied to a system to evaluate a component of the system, the present invention can be used" (col 6, lines 45-68).

Hence, the combination of the prior art renders obvious the features of the Appellant's dependent claim.

III. Claim 4

In regards to Appellant's arguments concerning dependent claim 4, Examiner notes that the rejection of claim 4 includes the rejection and arguments for all the claims upon which claim 4 is dependent. Hence, the Examiner need not redemonstrate all preceding features for each dependent claim. Hence, for claim 4, Examiner assumed all rejections and arguments concerning the claims upon which 4 was dependent. Examiner then demonstrated that the prior art rendered obvious reporting on the features demonstrated. The following citations further demonstrate how the prior art renders obvious reporting on information of interest to the user.

Gerace discloses reporting on a range of relevant information ('Custom reports can be caved on server' at col 33, line 35-col 34, line 28; col 3, lines 15-20; col 5, lines 35-40). Harhen discloses reporting, "The following [Appendix II] provides a exemplary output report which the system generates in outputting to the user a final hypothesis" (col 46, lines 9-13 and throughout the Harhen disclosure). Deaton discloses reporting, "In addition, certain report functions can be

made automatic as event-driven activities. . ." (col 33, lines 20-22 and throughout the Deaton disclosure).

Hence, the combination of the prior art renders obvious reporting to the user information of interest to the user.

IV. Claim 9

Examiner notes that the rejection of dependent claim 9 includes the rejection and arguments of the preceding claims upon which claim 9 is dependent. Examiner further notes that Gerace discloses testing marketing and targeting projections based on different parameters and constraints including null values:

"In the preferred embodiment, program 31 automates weighting of criteria and in real time adjusts the intended audience profile of advertisements. To that end, program 31 tracks demographic and/or psychographic criteria of users who view ("hit") and/or select (i.e., "click through") advertisements. Then program 31 performs a traditional regression analysis of the tracked criteria, which results in (i) null and alternative hypothesis testing to determine significance (T-test or .chi..sup.2 test) of criteria/variables, and in (ii) squared correlation and squared correlation testing (R.sup.2) to determine the weight of each criteria. See D. Freeman, R. Pisani and R. Purves, "Statistics", publishers W. W. Norten & Co., N.Y. 1978 pages 439-444; and Murray Speigel, "Theory and Problems of Statistics," McGraw Hill, N.Y. 1961 pages 270-273" (col 15, lines 25-45).

V. Claim 16

In regards to Appellant's arguments concerning dependent claim 16, Examiner notes that the rejection of claim 16 includes the rejection and arguments for all the claims upon which claim 16 is dependent.

Also, Examiner further notes that Harhen discloses recognizing inconsistencies, balancing business goals and objectives, and utilizing hierarchies concerning business goals and objectives:

"The present invention provides a computer-based method and apparatus to generate projection values for defined variables by applying, in parallel, multiple reasoning methods. The present invention provides a method and apparatus for creating a realistic model of an enterprise, including its production processes and market environment. That representation of the enterprise is contained in a frame-based enterprise model, which is stored in a knowledge base. The enterprise model represents various facts about the structure of the firm, such as flow relationships, causal relationships, compositional relationships, productivity relationships, proportionality relationships as well as opinions, goals and plans. Through the model building method of the present invention, a user can declare and instantiate new objects representing such entities in a knowledge base, assign attributes and values to those objects, and connect those objects to other objects through the set of available relationships. Other model building activities relate to the decomposition of an object by a decomposition rule. . . In the specification of objects for the enterprise model, the present invention provides for a

categorization hierarchy of objects. Objects are classified by data type, such as historical data, variables, program data or plans, opinions or goals (col 4, line 50-col 5, line 7).

In the specification of objects for the enterprise model, the present invention provides for a categorization hierarchy of objects. Objects are classified by data type, such as historical data, variables, program data or plans, opinions or goals. The categorization hierarchy facilitates the use of feature inheritance in declaring objects, whereby attributes can be declared about general classes of objects and these attributes can be inherited to the specific members of the class. The inheritance mechanism of the underlying representational medium, as well as the power of decomposition, allow for very efficient model building (col 5, lines 3-15).

Through the construction of this problem tree and the application and selective pruning of reasoning methods, the system decides in what manner to use the information available in the knowledge base. This architecture enables the system to be self-structuring, and enables the system to deal either with partial models of incomplete information or with situations when conflicting information appears in the knowledge base. In this manner, diverse and inconsistent knowledge such as budgets, plans, expectations, causal models and historical knowledge, can be integrated and interpreted within a single architecture. The ability to reason in either direction over declarative relations in the knowledge base is also important in achieving consistency between the various levels of plans produced in the hierarchies of organizations. Thus, the present invention represents a substantial improvement over the strategic planning tools that are currently available. Moreover, the method and apparatus of the present invention has a wide range of uses outside the domain of strategic planning. Wherever multiple analytical

methods can be applied to a system to evaluate a component of the system, the present invention can be used" (col 6, lines 45-68).

Hence, the combination of the prior art renders obvious the features of the Appellant's dependent claim.

VI. Claim 19

In regards to claim 19, Examiner notes that Appellant's dependent claims states, 'wherein said contradictions are mutually exclusive." As note in the definitions for these terms provided above in the rejection above, a contradiction implies that it is mutually exclusive. That is, if a person named George is in Chicago, he cannot also be in New York at the same time. Hence, George being in Chicago at a point in time is automatically mutually exclusive of George being in New York at the same time. And, if one were to state that George is in Chicago and New York at the same time, a contradiction would be present that violates the mutual exclusivity of George only being able to be at one location at one time. That is, if George is here, then he cannot be somewhere else.

Hence, dependent claim 19 states that the contradictions are mutually exclusive. However, the independent claim upon which 19 is based already demonstrated contradictions. And, a contradiction implies a state that is mutually exclusive with another state.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Arthur Duran
Primary Examiner

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Conferees:

Eric Stamber

Donald Champagne